



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,461	06/22/2005	Horst Vestweber	09931-00042-US	2766

23416 7590 08/11/2008
CONNOLLY BOVE LODGE & HUTZ, LLP
P O BOX 2207
WILMINGTON, DE 19899

EXAMINER

NELSON, MICHAEL E

ART UNIT	PAPER NUMBER
----------	--------------

1794

MAIL DATE	DELIVERY MODE
-----------	---------------

08/11/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Status of Claims

1. Claims 1, 5-8, 11-16, and 20 are pending. Claims 17-19, and 21-24 have been cancelled. Claim 1 has been amended to correct a minor informality.
2. The amendment as filed does not place the application in condition for allowance.
3. Applicant has not addressed issues concerning claim 20 with regards to 35 U.S.C. 112, 2nd paragraph. As stated in the final office action, claim 20 is not interpretable as written.
4. Examiner notes that Applicant appears inadvertently to have forgotten to include formula (I) and the formula for Z in amended claim 20. In the next office action, claim 20 should be corrected.
5. Applicant argues that the goal of the invention was to produce a device with a longer lifetime, but also a lower driving voltage, as described in the examples, and that this is achieved by using a combination of a hole transporting material with an emitting material in the light emitting layer.
6. Aziz et al. teaches the use of a hole transporting material and an emissive electron transporting material in the light emitting layer, and show not only an increase in stability over time, but a decrease in driving voltage, as illustrated by the voltage/current relationship shown in Figure 4A. Aziz et al. shows that compared with a bilayer device, mixtures of hole transporting material and emissive material produce devices with a decreased driving voltage. Since luminance (as shown in Figure 4B) is

directly correlated to the current, and the same current is produced as a lower voltage (as shown in Figure 4A), it is clear that the devices have a reduced driving voltage to produce the same amount of light.

7. Steuber et al. describe hole transporting spirobifluorene materials, with improved stability due to their high glass transition temperature. They teach these materials as hole transporting materials, compared with other commonly used hole transporting materials. Applicant argues that Steuber et al. do not disclose the use of the hole transporting materials in the light emitting layer. However, note that while Steuber et al. do not disclose all the features of the present claimed invention, Steuber et al. is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely the use of spirobifluorene hole transporting materials with high glass transition temperature, and in combination with the primary reference, discloses the presently claimed invention. Furthermore, in response to Applicant's argument that one of ordinary skill would not have considered Steuber in looking for a solution of the technical problem of improving driving voltage in addition to improving lifetime, it is noted that "obviousness under 103 is not negated because the motivation to arrive at the claimed invention as disclosed by the prior art does not agree with appellant's motivation", *In re Dillon*, 16 USPQ2d 1897 (Fed. Cir. 1990), *In re Tomlinson*, 150 USPQ 623 (CCPA 1966).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL E. NELSON whose telephone number is (571)270-3453. The examiner can normally be reached on M-F 7:30am-5:00pm EST (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael E. Nelson
Examiner
Art Unit 1794

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794